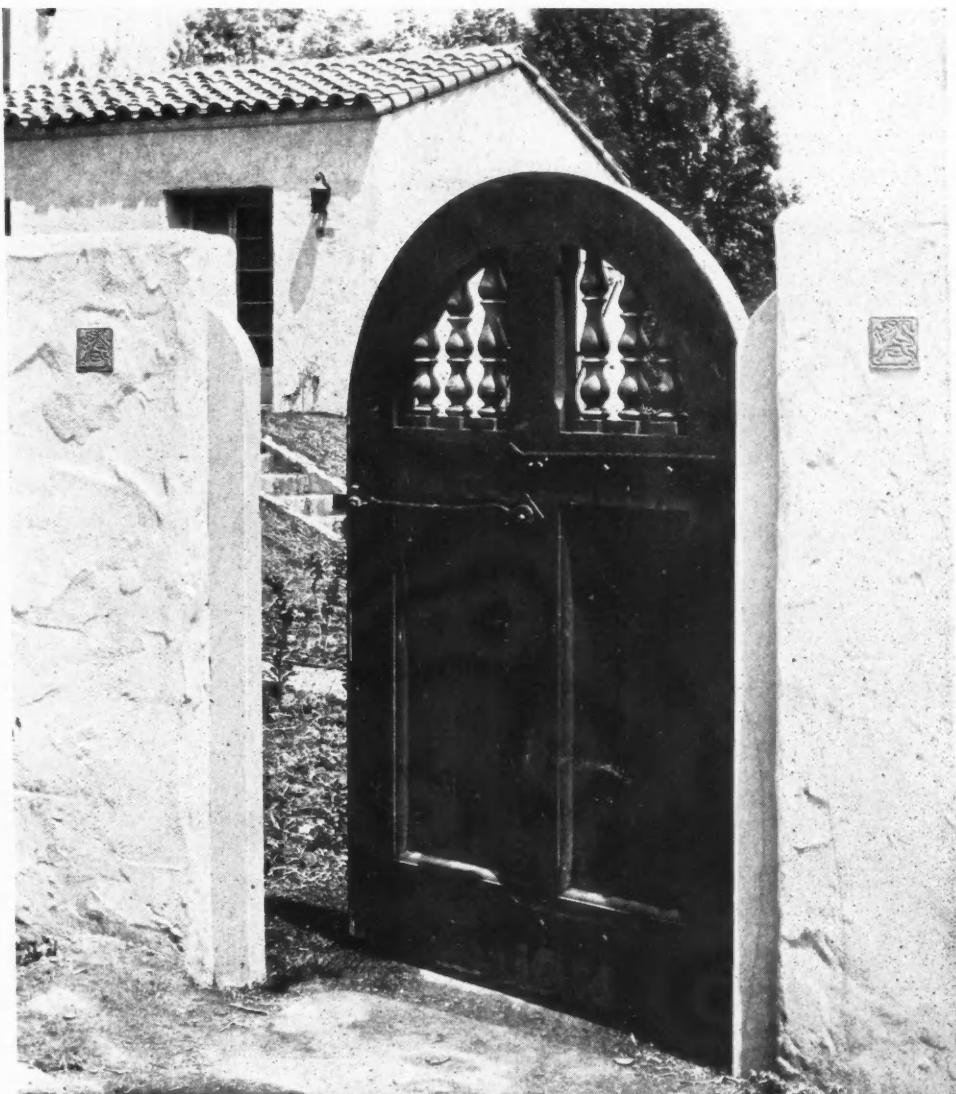


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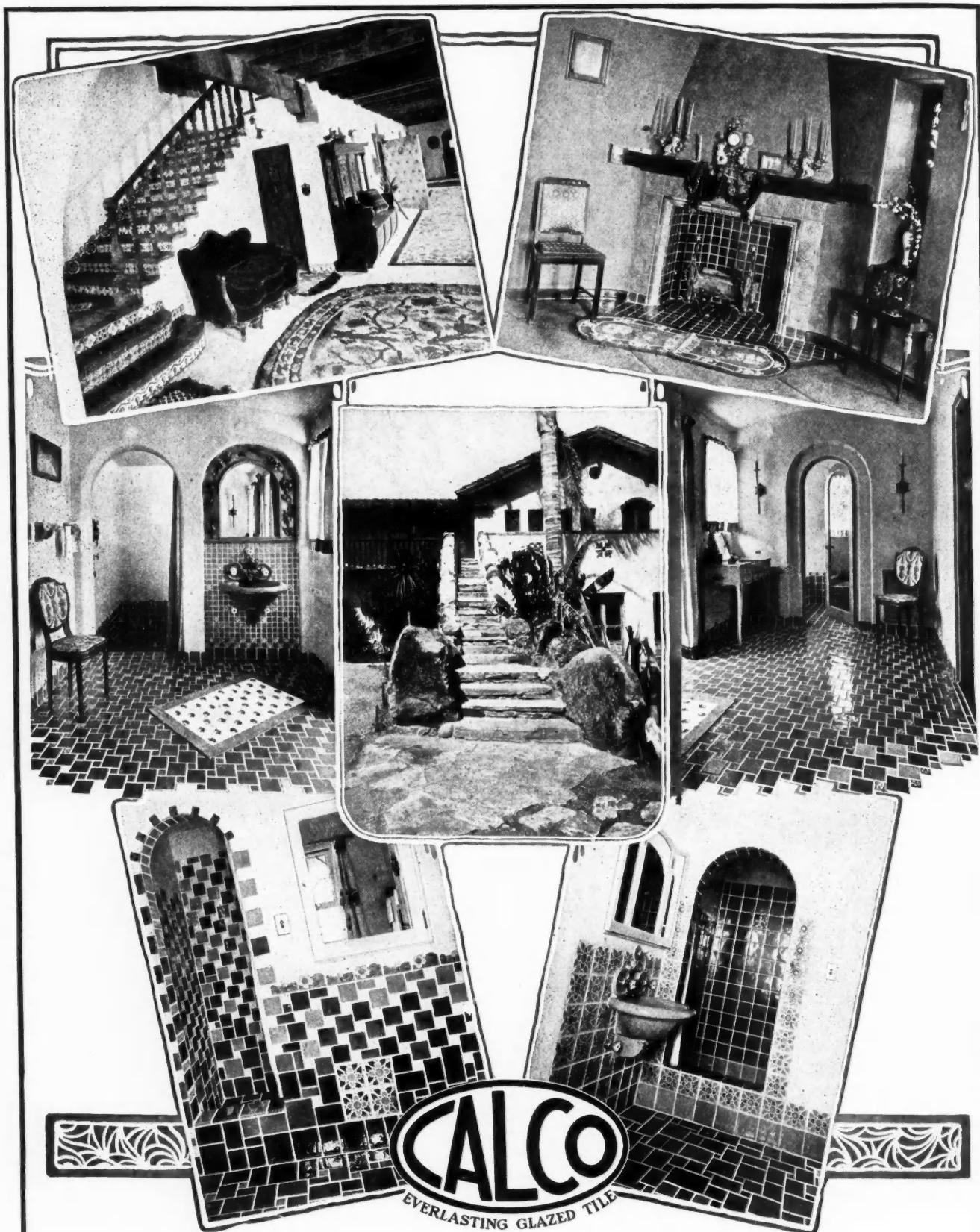
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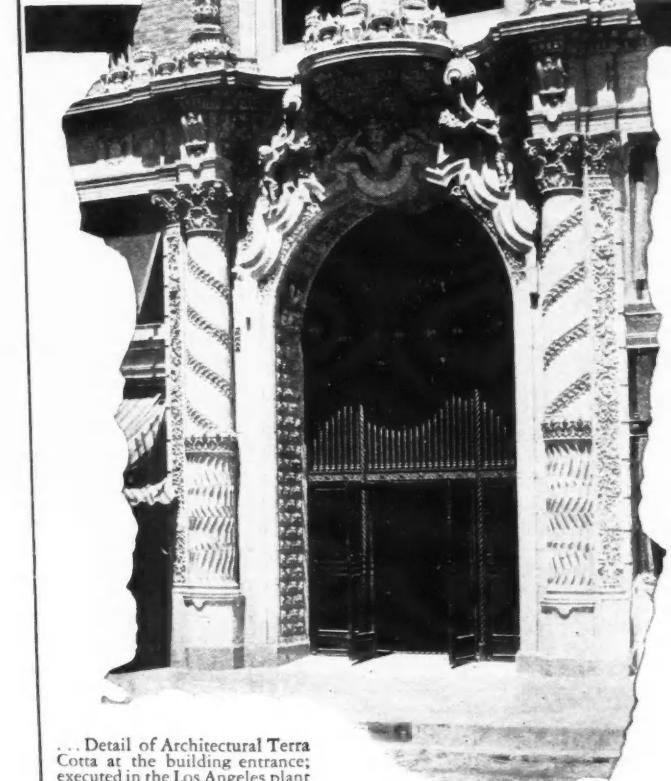


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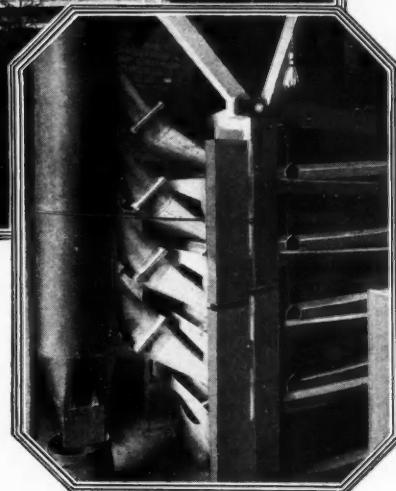
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H. F. COLLIER, BUSINESS MANAGER

NED BRYDONE-JACK, ADVERTISING MANAGER

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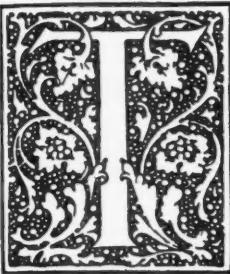
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STRAIGHT-FORWARD ARCHITECTURE

BY HARRIS ALLEN



THE vogue of messy architecture is passing. There will always be architects with messy minds, for whom it will be congenitally impossible to produce work that is simple and clean-cut and logical; "*de gustibus non est disputandum.*"

But the pendulum is swinging with increasing force in the other direction, and architects, who after all are more or less sensitive in their tastes and intuitions, are responding to the demand for simplicity, which is not as yet consciously expressed, but which is certainly becoming obvious.

And as the examples multiply which show the effectiveness of the straight-forward development of a plan without superfluous and meretricious ornament, there results a growing interest and demand on the part of the public, and a stimulus to the architect. In fact, it really compels the architect to use his mind; for unless he copies wholesale, which the special requirements of each case do not often permit, he must study his composition more carefully for its proportions and scale and balance; he cannot hide its delinquencies behind a camouflage of applied ornament.

We may reasonably expect, then, to see more and more of the type of building illustrated herewith—a type we have associated with



PORCH AND BALCONY, HOME OF HENRY SWIFT, BERKELEY, CALIFORNIA. ROLAND I. STRINGHAM, ARCHITECT



MAIN ENTRANCE, HOME OF HENRY SWIFT, BERKELEY, CALIFORNIA. ROLAND I. STRINGHAM, ARCHITECT



LIVING ROOM FIREPLACE, RESIDENCE OF HENRY SWIFT, BERKELEY, CALIFORNIA. ROLAND I. STRINGHAM, ARCHITECT

Southern California, but which is being developed in the San Francisco region with many such charming houses as are here shown.

There is nothing forced about these compositions; they are quite sincere and simple, expressing their plan, not afraid of plain surface, using materials in a craftsman-like way. There is even a degree of naivety, which is pleasant when the natural surroundings, as in these cases, soften the picture. When climate and soil make it possible to produce such quick results as they do, in California, it is part of the architect's province to design accordingly, using Nature as one of his instruments.

* * *

SEASONAL OCCUPATIONS

BUILDING industries, with more than two million workers, are so operated that many crafts are out of work three months each year. This was revealed by a nationwide survey of the building situation instigated by Secretary Hoover of the Department of Commerce to determine why building construction could not be carried on the year 'round.

"Few workers have an opportunity to work more than nine months," the report says. "Earnings in nine months must be sufficient for twelve months' living. The calendar months of work and of idleness are different for different crafts, and are less related to climate than to customs created by employers. A change in this situation is worthy of painstaking study by everyone connected with the construction industries because of the large savings such a change would bring not only to the industries concerned but to the nation as a whole.

"The ideal condition would be steady employment for all competent workers throughout the year. Bad weather is by no means the only handicap that makes it difficult to approximate such a condition. Some time is lost while one trade waits for another to complete work before its own activities can begin. Careful planning by the contractor will help to cut down this lost time."

Individuals concerned with building are urged to do their share in contributing to all-year-round building operations by scheduling new work and repair work at a time when the pressure of general building is not at its height. Data on the subject of seasonal construction may be obtained on application to the Division of Building and Housing, Department of Commerce, Washington, D.C.

COMPETITION FOR HARVARD BUILDINGS

HARVARD UNIVERSITY announces a two-stage competition for the selection of an architect to design a group of buildings to house about one thousand business students under the George F. Baker Foundation. The competition includes buildings for administration, class rooms, library, dormitories, dining hall, auditorium, students' club, faculty club, squash courts, and business research. It is assumed that the cost, including architect's fees, of the portion of the project covered by the competition will be approximately \$4,000,000. This sum does not include cost of factory building, power house and heat-supply tunnels, filling and landscape treatment, equipment, expenses of competition, etc. The architectural style is to be in consonance with Harvard tradition.

The following architects who have designed satisfactory buildings for the University, for Harvard Clubs, or for the Donor, or who have official connection with the School of Architecture of the University, have been selected to participate in the final stage of the competition:

Coolidge, Shepley, Bulfinch, and Abbott	Boston
Professor J. J. Haffner and Associates	Cambridge
Guy Lowell	Boston
McKim, Mead, and White	New York
Parker, Thomas, and Rice	Boston
Walker and Gillette	New York

The University reserves the right to substitute for any of these names.

The first, unpaid, stage of the competition is open to all architects resident in the United States. From this list it is proposed to select not more than six architects to compete, together with the six architects listed above, in the final stage; but a lesser number will be selected if, in the opinion of the representatives of the University on the first jury, there are less than six successful competitors of adequate business capacity, office organization, and professional accomplishment. The geographical location of the Competitors will also be considered in the choice. The jury for the first stage will consist of two representatives of the University and three architects chosen by the Adviser from a list approved by the six architects listed above.

The jury for the final, paid, stage in the competition will consist of the Donor or his representative, two representatives of the University, and two architects chosen by the Adviser from a list approved by the final competitors. The University will agree that the winner shall design the buildings.

The University reserves the right to modify details of the procedure herein outlined, but the competition will be carried out so as to meet the approval of the Standing Committee on Competitions of the American Institute of Architects or of the local sub-committee.

Architects desiring to compete in the first stage are required to apply so that applications shall be received in Cambridge on or before August 25, 1924, and to forward with their applications a list of the more important buildings of their design, particularly of any buildings for uses similar to those of this group. Present addresses of owners are to be given in each case.

Reply to

PROFESSOR CHARLES W. KILLAM,
Professional Adviser,
17 University Hall, Cambridge, Mass.



RESIDENCE OF HENRY F. SWIFT, BERKELEY, CALIFORNIA. ROLAND I. STRINGHAM, ARCHITECT



MAIN ENTRANCE, RESIDENCE OF HENRY F. SWIFT, BERKELEY, CALIFORNIA.
ROLAND I. STRINGHAM, ARCHITECT



ABOVE—SKETCH FOR RESIDENCE OF DURAND HART. BELOW—SKETCH FOR RESIDENCE
OF HENRY SWIFT. ROLAND I. STRINGHAM, ARCHITECT



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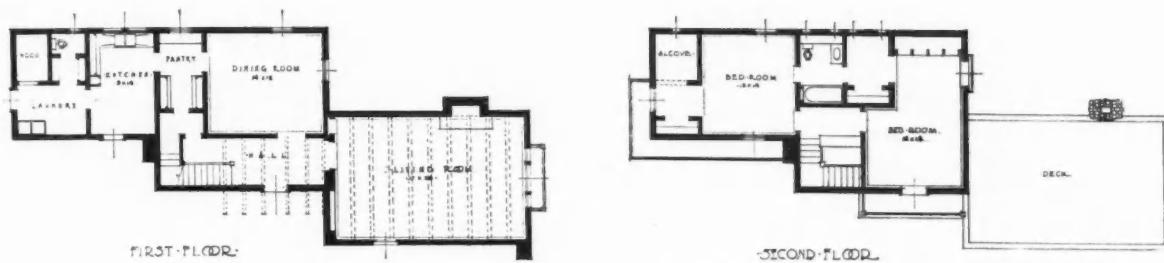
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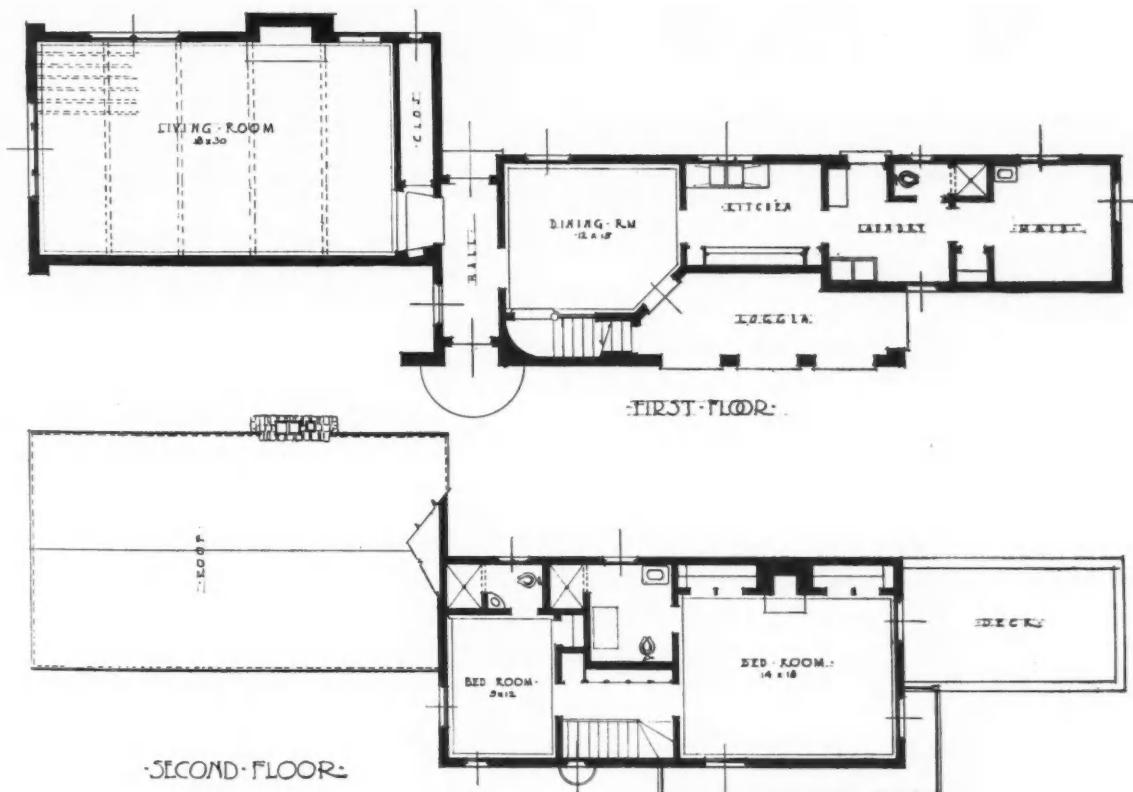
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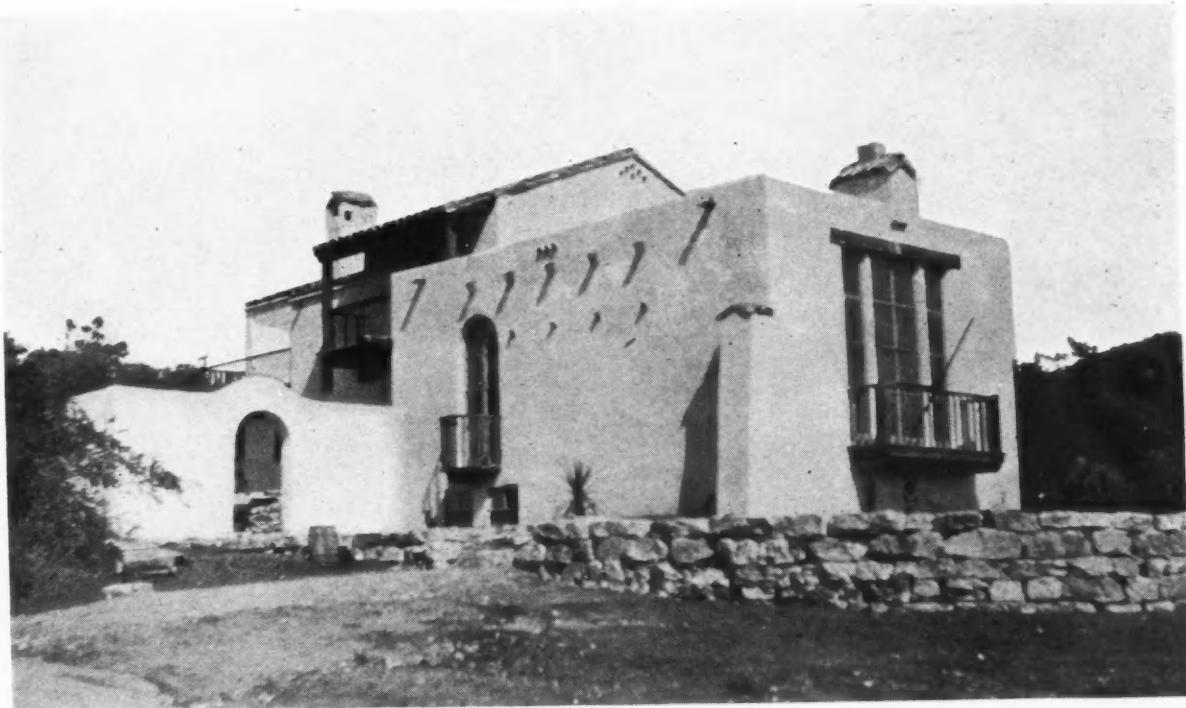
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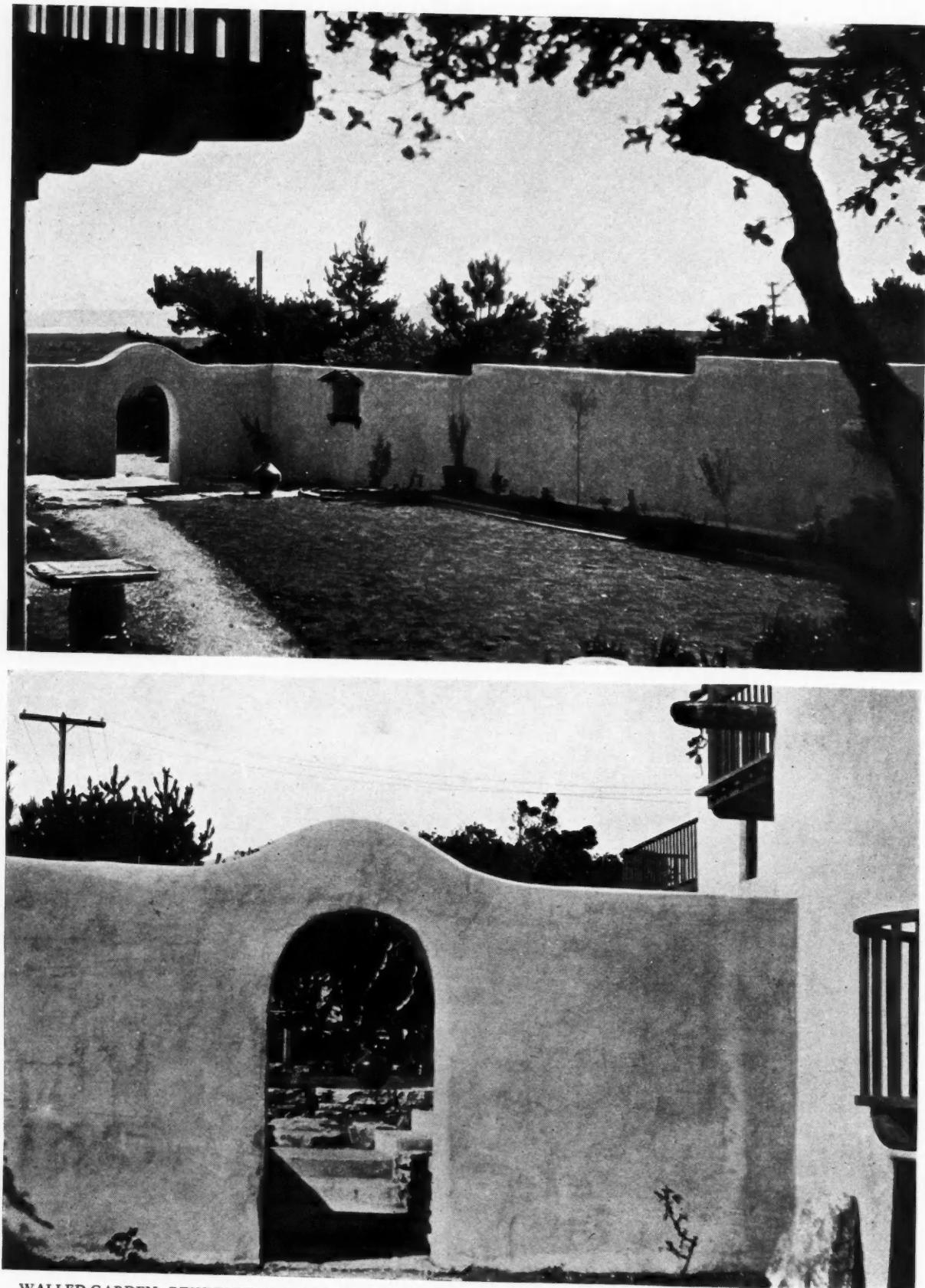
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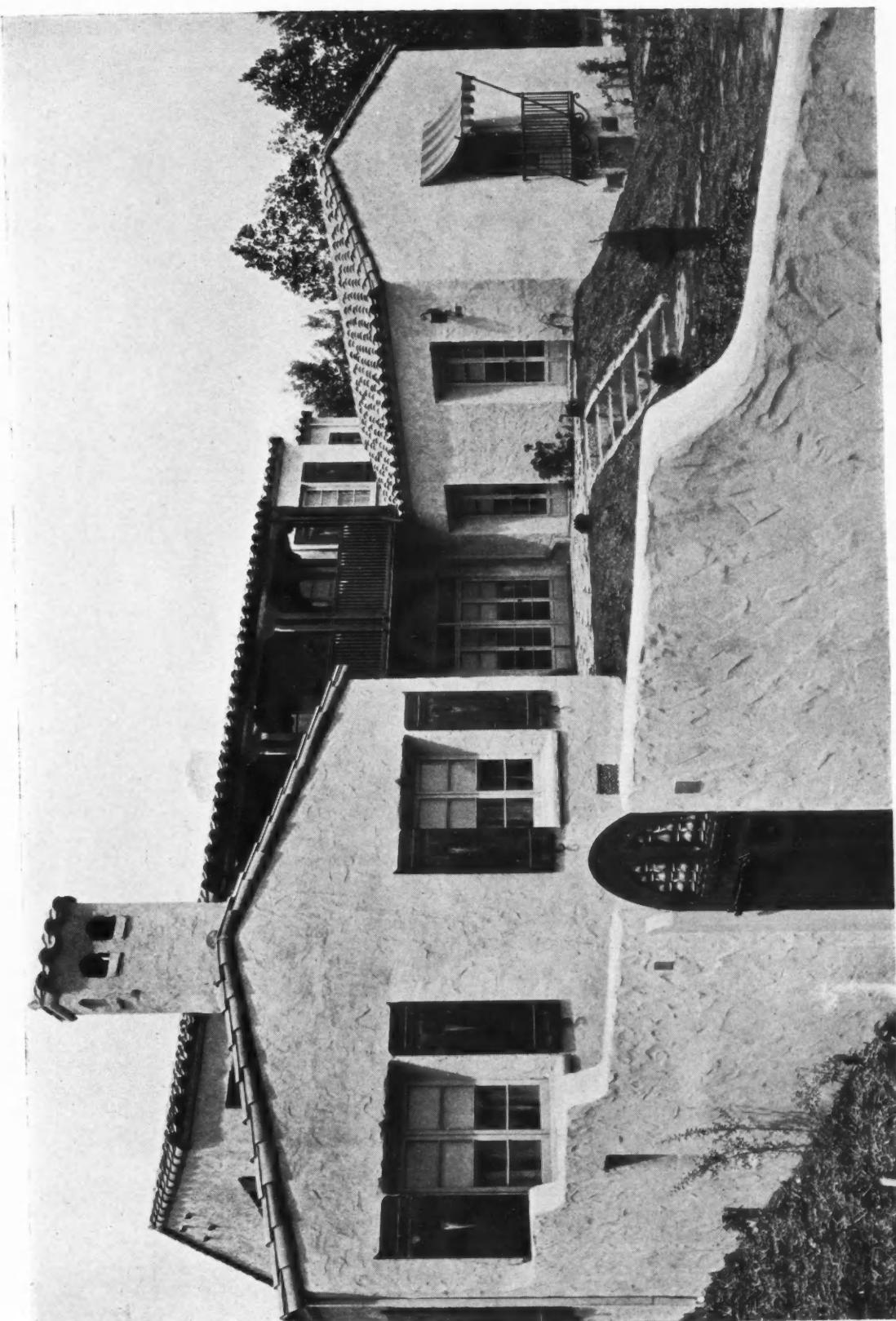
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WALLED GARDEN, RESIDENCE OF DR. H. W. FENNER, CARMEL, CALIFORNIA. ROLAND I. STRINGHAM, ARCHITECT



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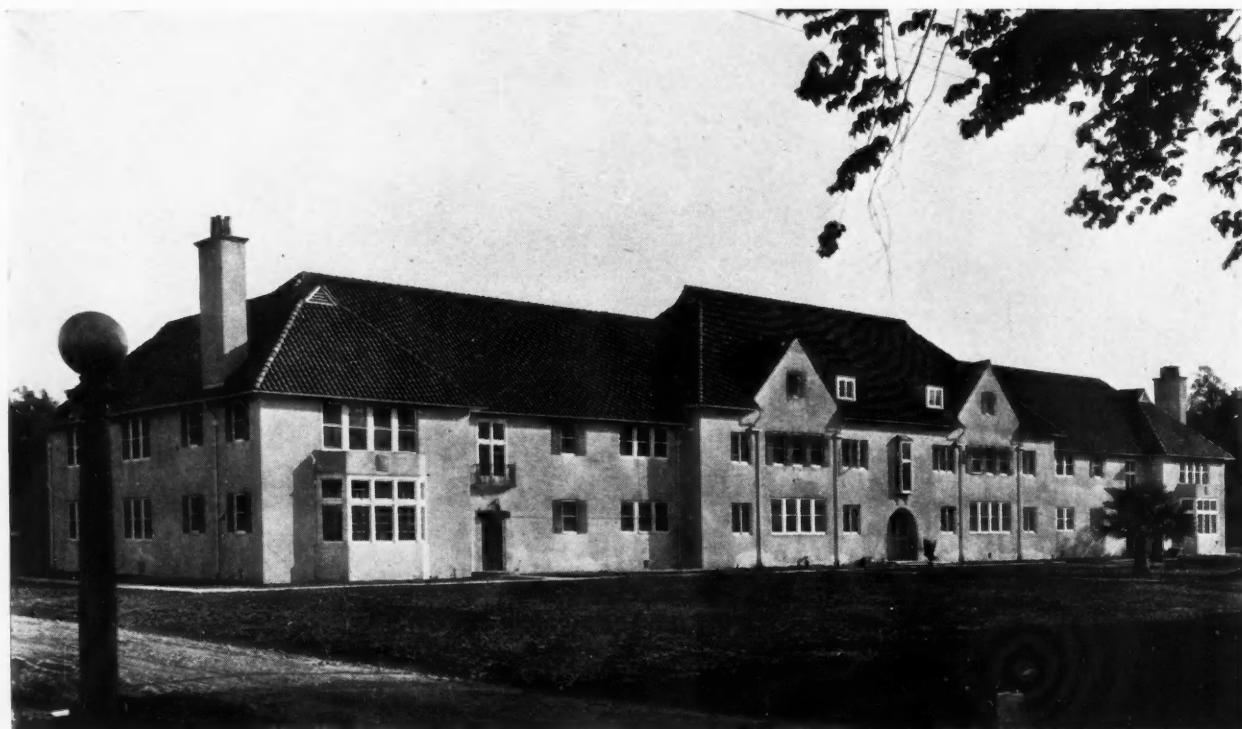
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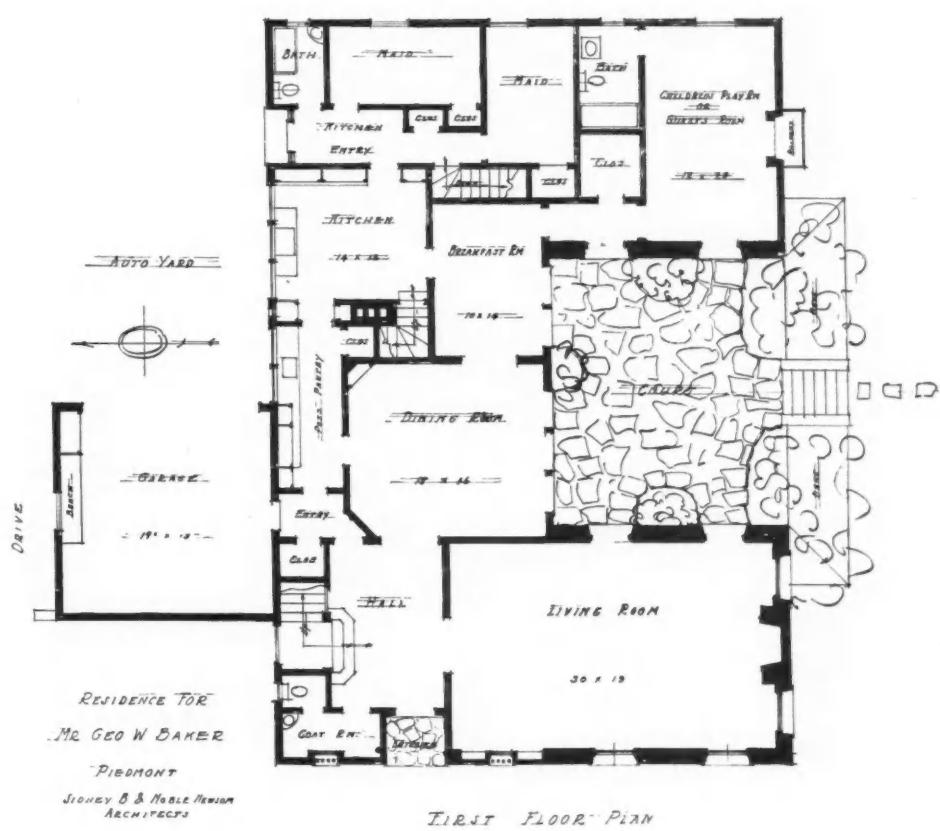
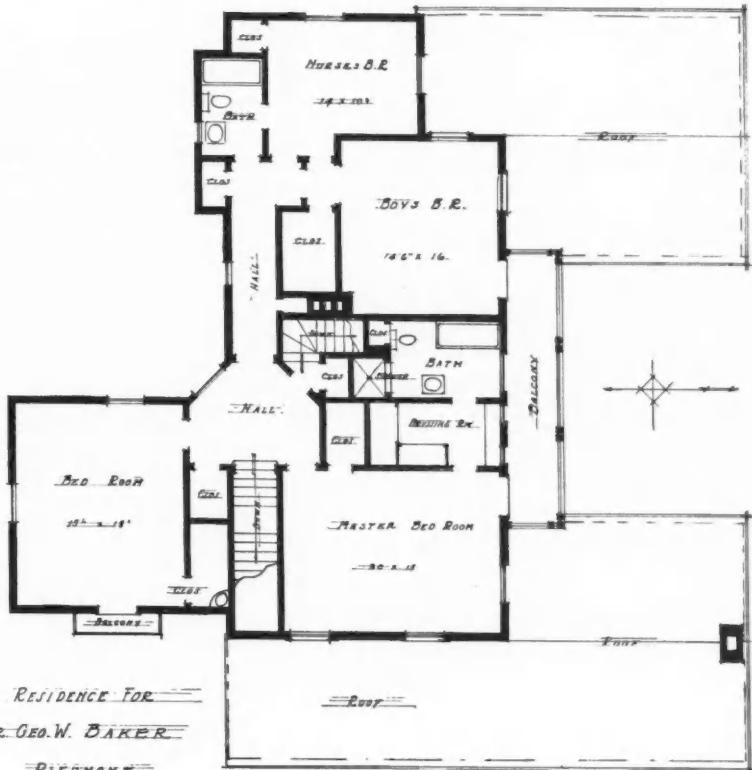
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LIVING ROOM,
RESIDENCE OF
MR. GEORGE W.
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CALIFORNIA.
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ARCHITECTS



ABOVE—HALL. BELOW—DINING ROOM. RESIDENCE OF MR. GEORGE W. BAKER, PIEDMONT, CALIFORNIA
SIDNEY AND NOBLE NEWSOM, ARCHITECTS



Doorway of Residence, Staten Island, N. Y. C. E. Grieshaber, Architect

WHAT could be more inviting than the chaste elegance of this entire effect? The Colonial doorway, the beautifully done Flemish Bond and the soft, rich tones of the brick leave nothing to be desired. In "Architectural Details in Brickwork" you will find many

other examples of artistic brickwork. The halftone plates, issued in three series, each in an enclosed folder ready for filing, will be sent to any architect requesting them on his office stationery. Address, American Face Brick Association, 1767 Peoples Life Building, Chicago, Illinois.

THE NEW SAN FRANCISCO PACIFIC TELEPHONE AND TELEGRAPH COMPANY BUILDING



AN FRANCISCO'S tallest building, the twenty-six-story coast division building of the Pacific Telephone and Telegraph Company, is now under construction on the southwest line of New Montgomery Streets, between Minna and Natoma Streets.

The \$3,000,000 structure is designed free from the fussy application of motifs of classical antiquity, in sheer solidity, with jagged face and tapering silhouette, resembling the stony pinnacles of the Sierras.

While first glance gives the impression of Gothic architecture the new home of the Pacific Telephone and Telegraph Company by no means follows that style. Its facade is purely a cloak for the great pile of steel and concrete, expressing on the face the sinews within.

The ideal of America's skyscraper-builders is realized as perfectly in this building as in any of New York's latest. Efficiency, strength, light and air are the aims sought and wherever necessary mere ornament has been cast aside for utility.

But this does not mean the building will be less beautiful than any in the West. On the contrary, it will take rank as the show-building of San Francisco. On the city's sky-line it is certain to loom impressively, easily the dominant edifice of the downtown section.

The largest building on the Pacific Coast for the exclusive use of one concern will have a floor area of 280,000 square feet, rising 453 feet from the sidewalk.

While all the executive, administrative and clerical forces of the telephone company will be drawn from eight buildings now occupied by the company in various parts of the city to be housed in the city's latest skyscraper, not one floor will be devoted to operative uses.

All present exchanges and several others will continue full strength, besides the new exchange on Bush Street, west of Kearny, to be pressed into service as soon as completed, according to company officials.

Perfect daylighting for all time is insured by the building's position, with streets on three sides and low buildings on the fourth. It has a frontage of 160 feet on New Montgomery Street and 147 feet on Minna and Natoma. At present, an "L" shape plan is being executed, but provisions have been made for future additions which will eventually result in "U" shape.

Two floors underground will accommodate the building's mechanical plant and provide storage room for records and supplies. Automobiles will be stored in the upper basement and in the first floor yard. Nine high-speed elevators will make stops at the twenty-nine floor levels.

Welfare and comfort of employes have been given first consideration in the design. A women's cafeteria on the twenty-second floor, assembly hall and library on the twenty-sixth, and promenade and recreational space on the roof are features. In the arrangement and finish of the interior, sanitary, noiseless floors and special lighting systems are to be installed.

The building will be ready for occupancy in July, 1925, according to present plans. August will see completion of the foundation. The steel frame is to be finished in November and the brick and terra cotta exterior before the end of January of next year.

The 1500 employes and executives have already been assigned places on various floors.

The forces of the division plant engineer, toll engineer and drafting forces will be located on the second floor. The outside, transmission and equipment engineering forces, third floor. The fourth floor will be occupied by the division superintendent of plant and the division chief clerk and his forces. The superintendent of plant maintenance and the division methods engineer and their forces will be located on the fifth floor.

The other departments will be located on the following floors: Division commercial, sixth; division and district traffic, seventh; revenue accounting, eighth and ninth; chief engineer and the general engineering forces, tenth, eleventh and twelfth; general traffic engineering forces, thirteenth and fourteenth; general plant engineers, fifteenth; general plant and general commercial, sixteenth; general commercial, seventeenth; executives, eighteenth; secretary-treasurer and the employes' benefit fund committee, nineteenth; general attorney, twentieth and twenty-first; cafeteria for female employes, twenty-second; chief engineer's forces, twenty-third, twenty-fourth and twenty-fifth; restroom, library and assembly hall, twenty-sixth.

Excavation for the foundation entailed some of the most exacting engineering ever required in construction of a San Francisco skyscraper.

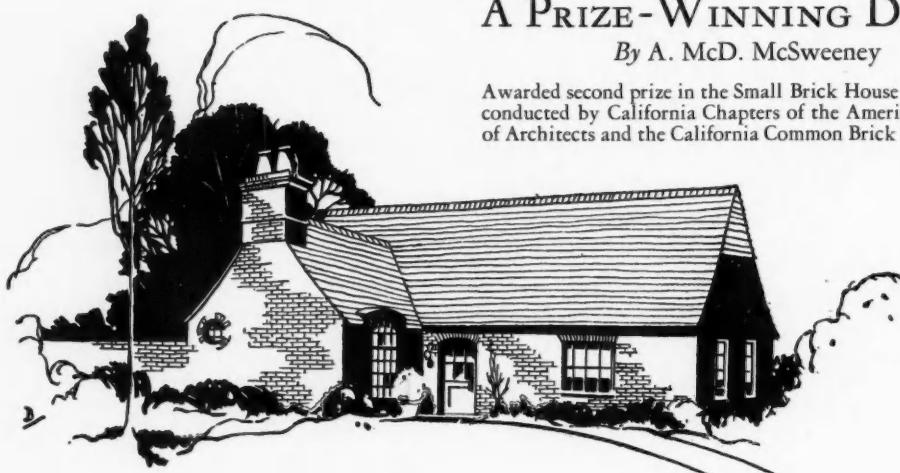
With two basements below the street level, the bottoms of the footings are forty-five feet

(Continued on page 34)

A PRIZE-WINNING DESIGN

By A. McD. McSweeney

Awarded second prize in the Small Brick House competition conducted by California Chapters of the American Institute of Architects and the California Common Brick Mfgs. Assn.



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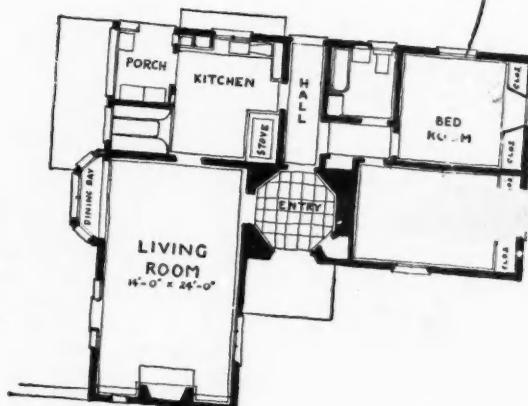
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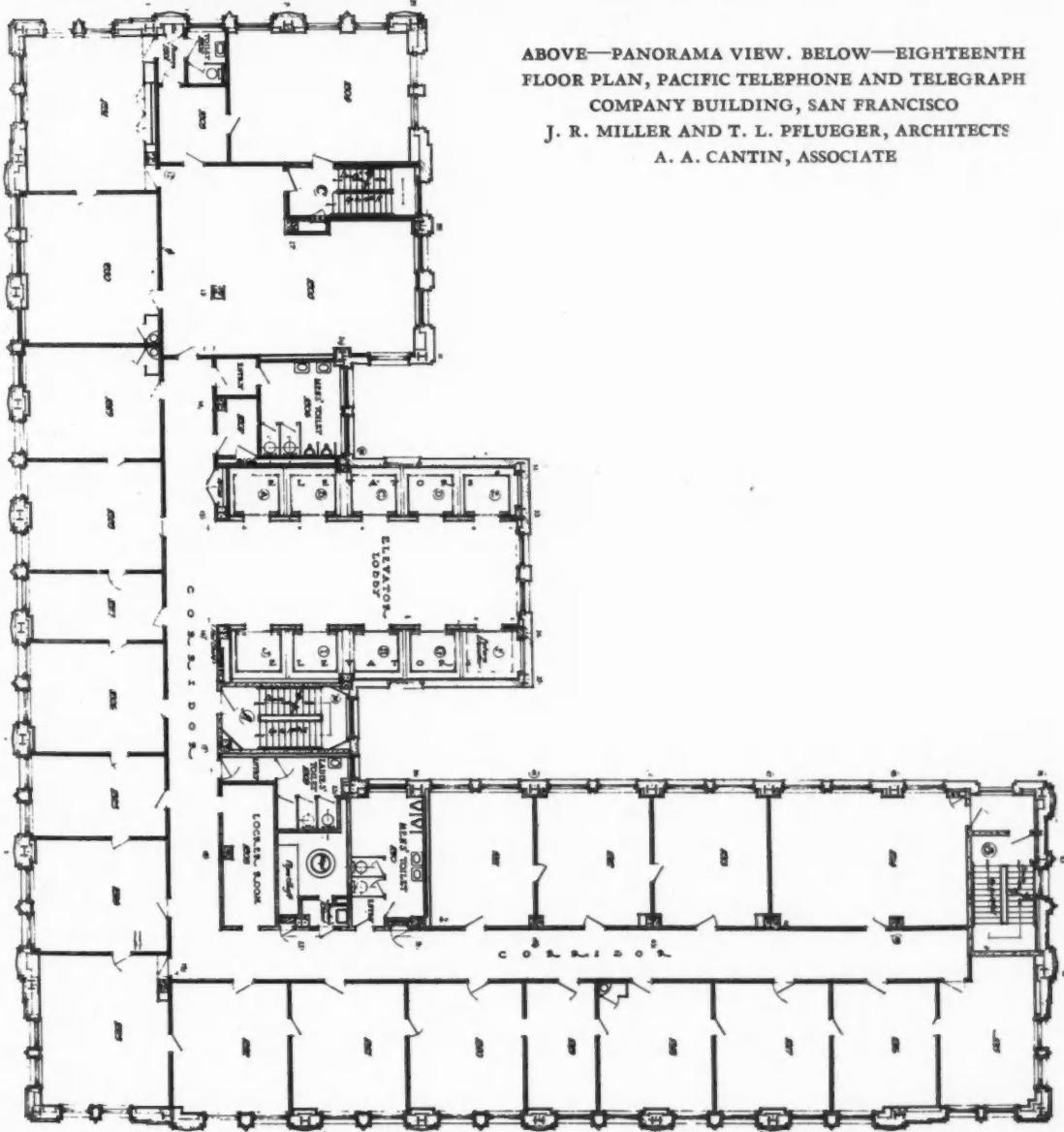
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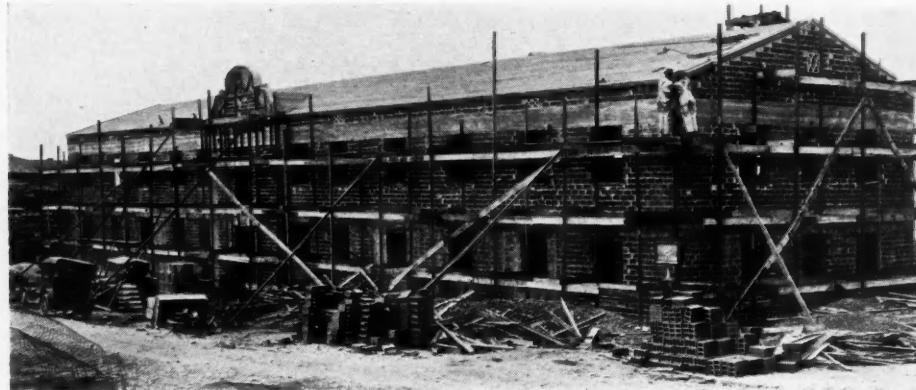
SOUTHER WAREHOUSE, 2701 SIXTEENTH STREET

SAN FRANCISCO



ABOVE—PANORAMA VIEW. BELOW—EIGHTEENTH
FLOOR PLAN, PACIFIC TELEPHONE AND TELEGRAPH
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J. R. MILLER AND T. L. PFLUEGER, ARCHITECTS
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• EDITORIAL •

Appreciation of Mr. Faville

The following resolution was unanimously adopted by the Directors of the American Institute of Architects, May, 1924:

Whereas, our retiring President, William B. Faville, has endeared himself to the members of the Board of Directors of the American Institute of Architects by his many acts of thoughtful consideration for others, his unsparing devotion to duty, his farsighted leadership, his unswerving allegiance to the best interests of our profession, and his unfailing courtesy,

Be It Resolved, by the Board of Directors of the American Institute of Architects in annual meeting assembled, that we express our gratitude for the pleasure and the privilege of working with such an Executive, that we tender to him our best wishes, and our hopes for his continued prosperity and happiness.

* * *

Excerpts from the President's Address, A.I.A. Convention, 1924

"In spite of a horizon not always unclouded, we have had a year of general architectural prosperity wherever industrial and commercial activities center; but in those areas dependent on agriculture, the depression of a year ago continues, is rather intensified, in fact, with no apparent relief in sight, although the malady is engaging the attention of many minds. And yet once again, in spite of a horizon still clouded here and there, the outlook for the present year is reassuring, judging from the volume of building permits, credit available for building operations and the volume of steel bookings recorded during the first three months of 1924. The dawn of a better spirit of good will in matters international, forecasting, let us hope, an early adjustment of many perplexing post-war difficulties still further encourages an optimistic architectural outlook.

"With no disparagement of any of the arduous duties of our Institute Committees, I would fain direct particular attention to two committee reports.

"The task assigned to the Public Works Committee, covering as it does such a wide range of possible usefulness to our profession and our art, demands our united encouragement. The Federal Government is at present deep in the problem of reorganizing the Federal Departments—a reorganization that will include the

proposed Department of Public Works and establish architectural relations with the Government upon an entirely new basis.

"I would also direct your attention to the report of the Committee on Community Planning as one of the most vital documents ever submitted to a Convention. It is unnecessary for me to dwell upon the problems with which our urban communities are faced as their growth accelerates at a rate never before known in history. Coincident with this growth increasing attention has been given to the principles of city planning, and to the study of these principles and their relation to architecture, your Committee has given a long and patient attention.

"In the conclusions presented in the Committee's report we discover that architecture the art, is not the master but the servant of our method of city building, a method which has grown up all unconsciously and with the results of which we are now face to face. The problem is a momentous one and the search for its solution is a challenge to the art and practice of architecture. For, let us never forget, our individual achievements in plan and design can never produce the type of community in which human beings can live and work with pleasure and grow constantly toward a fuller and nobler life, unless the basic plan be a sound one. Let us therefore accept the challenge and with patience and diligence insist that architecture resume the leadership which is its very birthright.

"Is the Institute furnishing to the architectural profession as a whole the highest form of leadership?

"Let me confess at once that the nature of my question is spiritual, that I find myself deeply wondering as to whether in the perfection of our technical contributions, and in our unceasing effort to fulfill the material obligations laid upon us, we are not forgetting that architecture is an art of which the very essence is of the spirit of man. And if it seems a far cry, in these days, to things of the spirit, must we not remember that our whole architectural heritage is utterly spiritual in its significance. It is therefore with that in mind and with the thought before me of our great profession, both within and without the Institute, with the picture in my mind of the thousands of young men who are to follow in our footsteps and take up our tasks, that I ask my question."



PACIFIC GAS & ELECTRIC CO. BUILDING, SAN FRANCISCO. BAKEWELL & BROWN, ARCHITECTS

A SURVEY OF THE OFFICE BUILDING WINDOW PROBLEM



ARCHITECTS and owners are interested in the selection of material for a building which will prove most satisfactory to meet the various requirements of use, cost, maintenance, etc. The following survey of windows, taken from a report of the Engineering Department of the Pacific Gas and Electric Co. of San Francisco, should prove valuable as covering the many points in a thorough and authoritative manner:

I. GENERAL CONSIDERATIONS

In making a study of various types of windows for the new building, it is important to bear in mind certain characteristics typical of good window design, each of which should be given careful consideration in the selection of the most suitable installations for our purpose. These may be outlined as follows:

1. Low first cost;
2. Low maintenance;
3. Durability;
4. Light and vision;
5. Ease and safety in cleaning;
6. Ease and convenience of operation;
7. Simplicity of construction;
8. Strength and rigidity;
9. Weatherproof qualities (*i. e.*, as regards air, dust and rain leakage);
10. Protection against noise interference;
11. Ventilation;
12. Stability, both when open and shut;
13. Fire resistance;
14. Appearance;
15. Hardware;
16. Effect upon location of curtains or drapes, and encroachment upon office space.

II. METHOD OF STUDY

Several representative types of window were selected for study covering within reasonable limits practically the entire field of office window design. Conference was had with the various manufacturers' representatives to determine the characteristics, relative costs and special advantages claimed for each window. This was supplemented by a study of the details of design in each case and demonstrations of full size models.

III. SPECIAL CONSIDERATIONS

Certain general features of the new building, such as location, dimension, plan, size, arrange-

ment and details of window openings, and system of ventilation, will have a more or less direct bearing on the type, design and operation of the window to be selected. The significance of these features from the standpoint of window design is as follows:

1. *Location:* On account of the extremely heavy traffic at the junction of Market, Beale, Pine and Davis Streets, careful attention must be given the question of noise elimination, particularly along the Market and Beale Street fronts. Another consideration of importance is the prevailing strong west wind to which the Beale Street front will be exposed, with very little protection from the existing buildings to the west, none of which are more than five stories in height. This will have a direct influence on the problem of ventilation and also upon the type of window operating device to be selected.

2. *Openings:* With the exception of 29 large windows with circular or segmental heads occurring on the 1st, 2nd, 14th and 15th story street fronts, and 4 circular windows on the 17th floor, all openings will be single, without mullions, and rectangular in shape.

Window sills, as now proposed, will be 10½ inches in width, with a flat slope. This feature is of importance from the standpoint of cleaning.

3. *Ventilating System:* It has been decided to provide for mechanical ventilation of all office bordering on Market and Beale Streets in the first twelve stories, excepting the eleventh.

IV. NOISE ELIMINATION

On account of the possibilities of serious annoyance from the noise of the heavy traffic in the vicinity of the new building, a special investigation was made to determine suitable means of eliminating this trouble by proper window design. From a study of various buildings, similarly located in regard to density of street traffic it has developed that any first-class weather-tight window seems to give ample protection from noise disturbances when kept closed. Double windows, while giving practically 100 per cent. protection, are not considered necessary or justified, considering the fact that the costs of sash, glazing, cleaning and maintenance are all practically doubled.

V. CLASSIFICATION

For the purpose of this discussion, windows are placed under two classifications: first, as to *material*, and second, as to *method of operation*. Material may be wood, steel (either plate steel or

PACIFIC GAS AND ELECTRIC CO.

in its new main office building at Market and Beale Sts., San Francisco, is using the type of window shown below throughout the entire building.



MET-PROD-CO. Reversible Steel Casement

For Modern Office Buildings and Apartments Use
MET-PROD-CO. Reversible Casements

UNITED STATES METAL PRODUCTS COMPANY

330 Tenth Street, San Francisco Paulsen Bldg., Spokane
Bank of Italy Building, Los Angeles
Provident Building, Tacoma 1105 Second Street, Seattle
Exchange Building, Portland

rolled sections), or hollow metal. As to operation, windows will fall under one of the following classes:

1. *Double-hung*. Ordinary type of sliding window in which the upper and lower units of the sash are separately hung with counterweights so that either can be opened independently.

2. *Counter-balanced Sash*. Similar to the double-hung window, except that the two sashes are balanced against each other by hanging both upper and lower sash of a pair over a single set of pulleys, so that both open and close simultaneously.

3. *Reversible Double-hung*. Same as the ordinary double-hung type (1) with an additional device whereby either sash may be tilted in its frame on a horizontal pivot for purposes of cleaning.

4. *Hinged Casement*. May be either hinged at the side or swung on vertical pivots at a point some distance in from the jamb, by which means the sash swings away from the jamb and permits the cleaning of both sides of the glass from the interior of the room. The same effect is also obtained by means of an offset side hinge.

5. *Horizontal Reversible Window*. Resembles the double-hung window in general appearance, but swings out or in on a horizontal pivot which slides in a vertical rack and permits practically complete reversal of the window for cleaning purposes.

6. *Vertical Reversible Window*. Similar to hinged casement in appearance, but provided with the same fixtures as type (5), being arranged to reverse in a vertical, rather than horizontal plane.

7. *Miscellaneous Types*. In addition to the above there are certain miscellaneous types, such as top hinged, bottom hinged, tilting sash, etc., which do not fall directly under any of the six classes enumerated above. All of these types will be found either to involve undue difficulty in cleaning or to encroach upon office space and interfere with the placing of shades, and at the same time they are believed to have no particular merits not possessed in equal degree by one of the first six types enumerated. Further consideration of these types has therefore been omitted from the discussion.

It is recognized also, that there are certain other windows which might not be considered to fall strictly within the above six classes. However, it will be found, practically without exception, that the difference in them is one of operating fixtures only, there being innumerable varieties of patented operating devices on the market. Although the inherent merits and demerits of these various devices vary considerably in the different makes, in a consideration of the advantages and disadvantages of the win-

dow itself it is believed that one or the other of the above classifications will be found to apply.

VI. COMPARISON OF WOOD *versus* METAL CONSTRUCTION

1. *Wood*: The chief advantage of a wooden window and practically the only one, over a hollow metal or steel type, is its low first cost, which will average from about one-half to one-third that of metal construction. This is further augmented in the case of this new building by the fact that practically no penalty in insurance rate will be made for wooden windows on account of the wide separation of building walls from adjacent structures. Conference with representatives of the National Board of Fire Underwriters has established the fact that insurance rates would be unaffected by the installation of wooden windows, except in the court where openings are within 30 feet of the Matson property line, for which case a penalty of from one to two cents per \$100 valuation would be made.

Future extension by the ultimate construction of a Market Street wing or continuation of the Beale Street wing above the third story to the rear property line would in no way affect the type of window to be selected for the building as now proposed, so far as insurance rates are concerned. Should either of these wings be extended in the future, however, to the south property line, a saving of about three cents per \$100 valuation would be effected by the use of metal window frames in their end walls. This is on account of the presence of a Class "C" building adjacent to that line. The saving on the basis of a million dollar building valuation would amount to \$300 per year, which would have a capitalized value at 7 percent, of \$4,285. Since, at the most, a saving of not over \$4,000 could be made in wood windows for the end walls of the two wings; this would indicate that metal windows for these particular walls, the use of metal frames might be economically justified when this extension is made.

The most serious disadvantage of wood sash is its sensitiveness to climatic changes. In the case of a hinged or pivoted construction this greatly increases the trouble of opening, closing, and securing good weathering, due to shrinkage, swelling or warping, which are inherent drawbacks of wood in general. It is principally for this reason, in combination with the low cost of wood, that the sliding window has had greater favor than other types in American window design.

2. *Hollow Metal*: In general hollow metal windows cost from one and one-half to two and one-half times that of wood windows, and 20

or 25 percent more than solid steel windows. Their principal advantages over wood construction are greater durability, better operation due to absence of warping, etc., from climatic changes, greater fire resistance, and better weathering qualities. By means of closer contacts and closely interlocking line or thin fins, not possible in wood construction, practically a 100 percent weatherproofing is obtainable.

Practically the only feature in which the hollow metal window excels the solid steel is that of appearance. A much neater and more decorative finish is usually found in the former construction on account of greater flexibility in moulding the hollow metal frames. Although in recent years, solid plate steel windows have been developed which compare favorably in appearance with hollow metal, their price is somewhat excessive.

In addition to the high cost, other objectionable features of the hollow metal window are the following:

To obtain the necessary strength and also on account of the fact that the window is usually made to imitate preconceived wood design, it is very heavy and cumbersome and, like the wood window, has wide frame members which tend to obstruct light. In the case of double-hung window construction, heavy weights and large weight boxes are required, which increase the cost and may necessitate additional interior trim. Being made from thin cold rolled material, all metal windows are difficult to spot weld without warping, and are therefore sometimes found to bind after being installed, resulting in unsatisfactory operation. Also, unless well galvanized, the window is particularly susceptible to rust and deterioration.

3. *Steel*: The cost of steel windows varies considerably among different makes. This is accounted for by the fact that even in the same type of construction, there are found wide differences in the quality of workmanship and details of design.

Practically all of the inherent advantages of hollow metal windows apply equally well to the solid steel types. In addition, there is greater durability on account of the increased resistance to rust and deterioration, while there is also the possibility of obtaining a tighter fitting window, on account of greater stiffness of members and the ease in welding joints. Since lighter members can be used, the windows are less cumbersome than hollow metal types and admit more light for the same size of opening. From the nature of the construction of most types of steel windows the necessity of elaborate interior trim is eliminated.

(Continued on page 38)

(Continued from page 23)



Announcing A NEW WINDOW GLASS

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Absolutely flat. Uniform in thickness. Brilliant Surface. Fewer defects and waves. Standard glazing quality in single strength (nearly equal to ordinary double strength in weight) is excelled only by plate glass.

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below the sidewalk. A comparative idea of the size of the excavation may be obtained by considering that the height limit of a wood frame building is forty-two feet, and that fourteen usual flat buildings could be placed side by side in the excavation with none coming within a yard of reaching the sidewalk level.

The foundation consists of a layer of concrete and steel about twelve feet high, covering almost the entire lot. The two basements below the level of the street contain the mechanical apparatus, a garage, storage space for the voluminous records of the Telephone Company, and a storage tank of 120,000 gallons connected to a system of distributing pipes, which make a huge fire or conflagration in the building or the buildings surrounding it impossible, even if the city system should fail completely.

* * *

How much granite does it take to fill a million dollar contract for the granite work on a modern building?

Ten thousand tons of granite, or five hundred carloads—that's the amount which will be used by the Raymond Granite Company of Los Angeles on the new Los Angeles County Hall of Justice. Contract for the work has just been awarded to the firm, it was announced yesterday by officials.

Every bit of granite will be quarried in California, at the Knowles' Quarry in Madera County.



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PROGRESS OF THE INDUSTRIAL ASSOCIATION OF SAN FRANCISCO

[*By FRANCIS J. BAKER, President Industrial Association of San Francisco*]



FOUNDING out the third year of its existence, the Industrial Association of San Francisco presents the following record of constructive achievement:

Settled city-wide building trades strike of 1921 by establishing American Plan in building industry; thereby abolishing all artificial and autocratic union rules and regulations curtailing efficiency and limiting output; including rules and regulations rigidly restricting admission of apprentices to the several building trades.

Provided impartial machinery for establishing wages in building trades, and enforcement of wages thus established.

Maintained free trade schools for plasterers, plumbers, painters, paperhangers, bricklayers, tailors, molders, tile-setters and housesmiths; from which have been graduated some 1,000 apprentices and in which approximately 700 are still taking training.

Effectuated American Plan in whole or in part in the following (in addition to the building industry) industries: Lithographic, cigar, shoe, garment, taxicab, metal, warehouse, glass, lumber, hotel and restaurant, and candy.

Effectuated a plan of employee insurance by means of which it has been possible for the first time to offer to building trades workers group insurance at rates 60 to 30 percent less than ordinary insurance could be purchased, and under which thousands of building trades workers have secured policies covering death and total disability.

Established a safety service to supplement safety inspection by the state and municipality; to the end that the hazards of industry may be reduced to the smallest possible minimum.

Maintained a free employment bureau which has placed more than 20,000 men and furnished help in all lines with no expense either to employers or employees.

Effectuated a comprehensive improvement program for foundry operation, so that American Plan foundries are

rapidly becoming superior to any others on the Pacific Coast, and up to standard of best foundries in the United States, and are thereby securing work heretofore done elsewhere on the Pacific Coast and in the East.

Settled numerous incipient controversies which might otherwise have led to serious industrial strife.

Protected the workers' interests, and co-operated with workers by adjusting their grievances, by preventing any discrimination between union and non-union men; and by absolutely enforcing the eight-hour day, good wages and decent working conditions.

Protected the public interest so thoroughly that while building permits have steadily increased and the entire community has prospered greatly and progressed rapidly, strikes have been almost wholly eliminated. Indeed, San Francisco went through the year 1923 without a single job or jurisdictional strike in the entire building industry; and is the only large known city in the Anglo-Saxon world where union and non-union building trades workers, in the same craft, work side by side on the same job.

This, in brief, is the record of constructive accomplishment which the Industrial Association can point to as it concludes the third year of its community endeavor. That it has rendered an invaluable service both to San Francisco and the whole country is attested by the fact that its membership is constantly increasing and that it is being called on more and more for counsel and guidance by industrial leaders of other large communities. For instance, within the past year it has been asked by representatives of three foreign governments to furnish details of its method of organization and operation; and its training school program has been adopted by at least a dozen large cities throughout the country.

* * *

That a course on modern home construction is to be offered by the University of California Extension Division under the direction of Professor C. T. Wiskocil, beginning Monday, September 8, at 7 o'clock, at 254 Pacific Building, San Francisco, will be of interest to many persons seeking information on this important subject.

"HOW TO FURNISH THE SMALL HOME"



BETTER Homes in America was organized to try to give to all, regardless of the size of the family purse, the utmost in beauty, comfort, and utility in their homes. As is well known now, Better Homes in America is absolutely non-commercial in character.

As a means of extending its benefits as widely as possible, the directors of the organization have

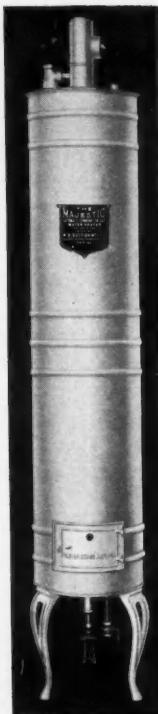
authorized the preparation and publication of a number of booklets on subjects of vital interest to home seekers, specializing on those whose incomes will not permit lavish spending of money.

With this purpose in view, Mrs. Charles Bradley Sander, a well-known authority in her field, was commissioned to prepare a booklet for Better Homes in America on "How to Furnish the Small Home."

This pamphlet was prepared with two purposes in view. The first was to help individual owners of small houses who seek to make their homes as attractive and homelike as their means will permit. To them it offers the essential rules of furnishing and decoration. The pamphlet contains suggested lists of furniture, floor-coverings, curtains, pictures, and other furnishings which should increase the range of their choice. Without such a list, materials which are less appropriate and needlessly expensive, might be selected.

The second purpose is to provide a handbook for the furnishing and decoration of the demonstration homes erected or remodeled as a part of the educational campaign of Better Homes in many hundreds of communities and demonstrated during Better Homes Week.

As Better Homes in America is strictly non-commercial in character, no profit is made on any of its publications. For that reason, the booklet on "How to Furnish the Small Home," is sold to those interested by national



THE MAJESTIC AUTOMATIC HOT WATER HEATER

A heater built with known qualities for service and durability.

Supplies automatically a voluminous supply of hot water economically without expensive upkeep.

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headquarters of the organization, 1653 Pennsylvania Avenue, Washington, D. C., at cost price—25 cents

The booklet treats in detail of the complete furnishing for a three-room house, a five-room house, and a seven-room house. To secure the proper furnishings in their entirety for a six-room house, one bedroom may be omitted from the furnishings given for a seven-room house, and similarly, a bedroom omitted from the specifications of the five-room house gives the requisite furnishings for a four-room house.

The booklet first takes up the preliminary considerations in furnishing any home—that the objects should suit the house in size, coloring and style; that the pieces should be harmonious with one another; that they should be comfortable and well made; that they suit the requirements of the family; and that they fit the family purse.

The booklet deals with the subject of backgrounds, floors, floor varnishes and floor coverings, woodwork for the home in harmony with the scheme of furnishing it, curtains and draperies, the selection of furniture, lamps, ornaments, and the kinds of wood most commonly used in the manufacture of modern furniture.

The booklet then takes up the three-room house and the others in turn. It discusses the subject of the model kitchen, the home library, breakfast alcoves, the laundry, proper ways to set the table, linen, closet essentials, and contains a brief selected list of recommended books on the furnishing of the small home.

Dr. James Ford, Executive Director of Better Homes in America, in the foreword to the booklet, says, in part, as follows:

"Too often the furnishing of American homes include an accumulation of ugly, uncomfortable, and meaningless objects which would better be eliminated. This criticism applies particularly to the pictures, hangings, and ornaments, but often also to rugs and furniture. Too often also the tools and equipment of the home are needlessly meager and inconvenient. The time and energy wasted in their use might be applied much more advantageously if they were replaced by labor-saving devices. One should not be the slave of his possessions but their master.

"Avoidance of waste and conservation of energy for life's higher purposes may then wisely be dominating principles in the selection of household furnishings precisely as they are in the other serious undertakings of life. But above all it should be remembered that the purpose of the house is to serve as the home of the growing family. I should then provide not only convenience for all household activities of kitchen and laundry, but also rest and comfort and inspiration for the leisure hours."

* * *

STOCKTON NOTES

Contracts for the construction of the Stockton Civic Memorial Auditorium, costing \$500,000, have been awarded by the city council, and work will start as soon as materials can be secured. The main auditorium of the structure will have a seating capacity of 5,000. Rooms will also be provided in the building for the club rooms of the various veterans' service clubs.

Frank Tucker is to be the general contractor of the work, while other contracts have been awarded Hild Electric Company, Seiler Iron Works and the Stockton Plumbing Supply House. Plans were prepared by Wright & Satterlee, and Glenn Allen, associated architects, and J. M. Burke, structural engineer.

* * *

Rapid progress is being made on the erection of the steel of the 10-story addition to the Commercial and Savings Bank Building. Lewis & Green are the general contractors in charge of this work.

SPECIFICATIONS FOR WATERPROOFING

SPECIFICATIONS for asphalt, coal-tar pitch, and rag felts for use in the water-proofing and damp-proofing of masonry and concrete structures have been adopted by the Federal Specifications Board, and will serve as master specifications for government purchases of such materials. They have been published as a series of Circulars of the Bureau of Standards. Copies may be obtained for five cents each from the Superintendent of Documents, Government Printing Office, Washington, D. C. The titles and numbers are as follows:

Coal Tar Saturated Rag Felt for Roofing and Water-proofing	C156
Coal Tar Pitch for Water-proofing and Damp-proofing	C155
Asphalt for Water-proofing and Damp-proofing	C160
Asphalt Saturated Rag Felt for Roofing and Water-proofing	C161
Asphalt Primer for Roofing and Water-proofing	C162

These specifications were prepared by the technical committee on bituminous roofing and water-proofing materials of the Federal Specifications Board, careful consideration being given to suggestions received from producers of these materials, from water-proofing contractors, architects, engineers, and from large consumers of the materials, such as railroads.

The asphalt and coal-tar pitch specified are intended to be used either alone, as a damp-proof coating for concrete, masonry, etc., or as plying cements, respectively, with asphalt and coal-tar saturated rag felt in the construction of membrane water-proofing. The asphalt is suitable for use on railroad bridges, tanks, retaining walls, dams, conduits, foundations of buildings, tunnels, subways, pools, reservoirs, etc. The coal-tar pitch can be used on similar structures, except where excessive vibration occurs, and where the temperatures in service is likely to exceed 100 degrees Fahrenheit.

These specifications are considered fair to both producer and consumer, and are expected to secure products suitable for the particular conditions of service outlined in the specifications and to allow wide latitude in the selection of raw materials and methods of production. They cover materials that are suitable for all sections of the United States and which can be obtained upon a competitive basis. They give the physical characteristics of the material as well as methods of sampling and testing deliveries.

* * *

Brick work on the men's dormitory of the College of the Pacific has been completed and finishing work is under way in the administration building. All of the buildings with the exception of the auditorium will be ready for the opening of college in September.

* * *

Shea & Shea, architects, announce the removal of their offices to 454 Montgomery Street, between California and Sacramento Streets, San Francisco.

* * *

OMISSION: In the May, 1924, issue of the Pacific Coast Architect, the name of Kermeth MacDonald, Jr., associated with George W. Kelham as architect of the building, was omitted.

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Whitco Hardware can be applied either to old or new sash as no special detail is required. No special finish is needed as Whitco Hardware is entirely concealed when the sash is closed. A set of Whitco Hardware consists of two pieces—one for the top and one for the bottom of the window. One size fits all sash. May be used either right or left hand.

Whitco Hardware is also ideal for transoms.

VINCENT WHITNEY COMPANY

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(Continued from page 33)

Although as previously mentioned steel windows in general have a less pleasing appearance than either hollow metal or wood, some architects consider that the slender graceful muntins which replace the wide cumbersome members of other types are an advantage in that they give a sense of spaciousness not otherwise obtainable.

VII. COMPARISON OF TYPES

1. Double-hung:

(a) *Advantages: General Use.* The double-hung window is more commonly used in office building construction than any other type at the present time and has consequently been developed to greater degree of perfection than other windows.

Strength. Greater strength and rigidity are obtainable, particularly in the case of wooden sash, from the fact that the window is confined within sliding strips and moves entirely within its own plane.

Weathering. The installation of adequate weather strips on both sides of the sash is possible and gives the maximum protection against leakage of air, dust and moisture, with the accompanying advantage of a saving in heating cost. Adequate weather strips also provide a maximum insurance against noise disturbance.

Simplicity. Greater simplicity in construction, and reliability of operation, of the double-hung window, result in low maintenance cost and practically eliminate the necessity of periodic inspections which must be made where more complicated mechanisms are employed.

Hardware. The window requires only the simplest type of hardware, which is much cheaper and less cumbersome in appearance than that of the ordinary casement or vertical reversible window.

Shades. The sash interferes in no way with placing of shades or drapes, which can be conveniently hung from the inside casing and operated entirely independent of the sash, nor does it encroach upon office space.

Cost. The initial cost of the double-hung window, either of wood, hollow metal or steel, compares very favorably with other types.

(b) *Disadvantages: Cleaning.* The principal objection to this type of window is the difficulty of cleaning, it being impossible to reach both sides of the sash from inside the room. The cleaner is obliged to stand on the sill and support himself by a strap fastened to safety anchors embedded in the reveal. It should be observed, however, that the width and slope of the sill as proposed for this building is such as to make this operation not unduly hazardous or costly. Inquiry into comparative cleaning

costs for installations of different types seem to show little additional expense where double-hung windows are in use, except in the case of extremely wide openings or sloping sills which make it difficult for the window cleaner to obtain a footing. The additional maintenance cost for the complicated fixtures of a reversible or casement window will undoubtedly outweigh any saving in cost of cleaning.

Operation. Although the operation of a well designed double-hung window should not be any more difficult than for other types, there is nevertheless a certain inconvenience involved in opening the upper sash from the necessity of having to use a window pole or to reach up from outside the lower sash.

Stability. Some difficulty has been experienced with double-hung windows from rattling, caused by vibration from heavy street traffic or wind. This is noticed more particularly in the case of wooden windows which are apt to shrink during dry seasons and become loose in the slides. This trouble has been successfully overcome by providing adjustable stops to permit tightening of the guides when necessary.

Ventilation. The maximum opening obtainable for this window is 50 percent. While this might be an objectionable feature in extremely warm climates, it would seem to be of little importance for temperatures such as prevail in San Francisco.

The nature of the opening of a double-hung window will permit the entrance of rain to a greater extent than in the case of a transomed casement or a horizontal reversible window, which acts as an awning when opened to deflect rain, while providing the necessary amount of ventilation.

There is also, perhaps a greater possibility of undesirable drafts from the double-hung than from a transomed or projected window, due to the absence of deflecting window panes. This is somewhat questionable, however, as inconvenience from strong drafts was found to exist in buildings with other types of window, particularly in the case of a west exposure. A glass window shield is often used in connection with the double-hung window to overcome this fault.

Necessity of additional trim. In order to cover the large weight boxes of a double-hung window, a wider trim is sometimes required, particularly in the case of wooden construction.

2. Counterbalanced Sash:

(a) *Advantages: First Cost.* The cost of this type is slightly less than the counterweighted double-hung window due to the elimination of part of the weights and weight boxes.

Convenience of Operation. Both sash are opened simultaneously which eliminates the difficulty encountered in the ordinary double-hung window of reaching the upper sash.

Miscellaneous. Inherent merits of the counterweighted or double-hung windows such as strength, simplicity of construction, good weathering, simple hardware, non-interference with shades and drapes, non-encroachment on floor space and low maintenance costs apply in the same degree to the counterbalanced windows.

(b) *Disadvantages: Ventilation.* It is impossible to open the two sashes independently. This is a serious objection for an office building, particularly in a windy climate, on account of the frequent necessity of keeping the lower sash closed to protect the desks from drafts, while it is desirable to open the upper sash for ventilation.

Miscellaneous. The difficulty of cleaning, possible annoyance from rattling and the lack of protection against entrance of rain when open apply to this window to the same extent as to the counterweighted double-hung window.

3. Reversible Double-hung:

(a) *Advantages.* This window carries most of the advantages of the ordinary double-hung window except as regards simplicity of operating mechanism, and has the added feature of being easily accessible for cleaning purposes.

(b) *Disadvantages: Cost.* The first cost is about 15 percent more than for the simple double-hung window. The window is made only in hollow metal and has the objections common to that construction, as outlined under Section VI.

Maintenance. The reversing mechanism, though not unduly complicated, consists of several wearing parts which might cause trouble and necessitate frequent maintenance and replacement work.

(To be continued in October issue)

* * *

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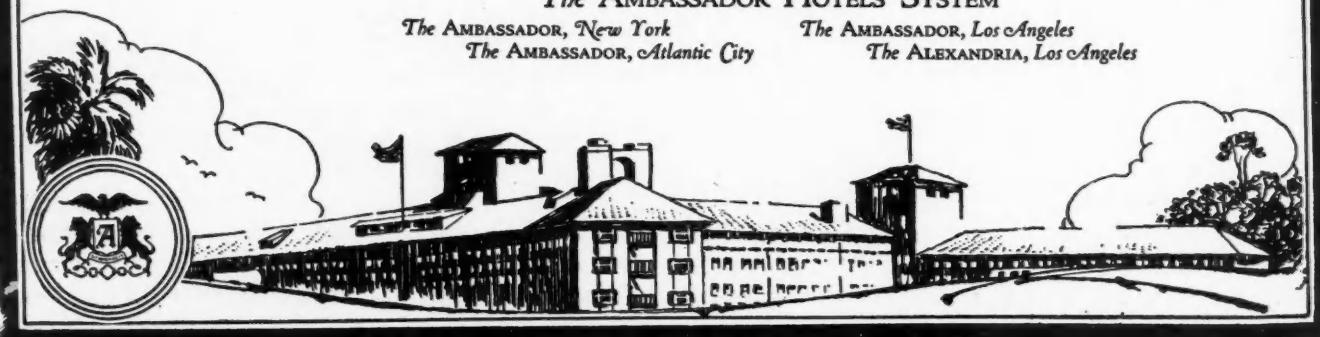
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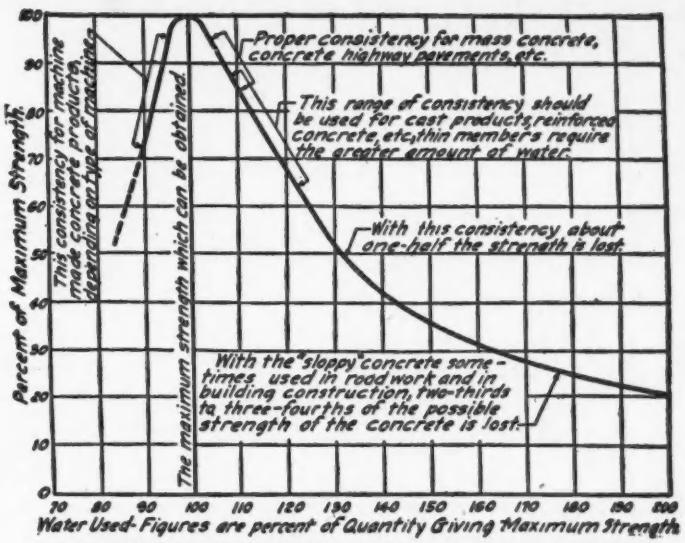


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Effect of Quantity of Mixing Water on the Compressive Strength of Concrete
NOTE: In general construction, the maximum strength can rarely be obtained, but it is possible to obtain 70 to 90 per cent of the maximum strength without additional expense by restricting the quantity of mixing water.

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